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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,806	09/04/2003	Teng-Chun Tsai	JCLA11376	7120
23900	7590	12/16/2004	EXAMINER	
J C PATENTS, INC. 4 VENTURE, SUITE 250 IRVINE, CA 92618			MCDONALD, SHANTESE L	
			ART UNIT	PAPER NUMBER
			3723	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/655,806	<b>Applicant(s)</b> TSAI ET AL. <i>OT</i>	
	<b>Examiner</b> Shantese L. McDonald	<b>Art Unit</b> 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-6, 11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-6, 11, 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 3723

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muilenburg et al. in view of Goetz.

Muilenburg et al. teaches a polishing pad, 200, comprising a plurality of abrasive units, 210 each containing an adhesive compound, 214, which comprises a resin, (col. 10, line 35-36), and a plurality of abrasive particles, 212, which comprises cerium oxide, (col. 9, line 51), distributed evenly within the adhesive compound, wherein the surface of the abrasive units in contact with the surface of a wafer is roughened, (col. 8, lines 10-24). Muilenburg teaches all the limitations of the claims except for the abrasive units being shaped into a triangular cone, hexagonal cone or circular cylinder set up as an array. Goetz teaches abrasive units shaped into a triangular cone, hexagonal cone or circular cylinder, set up as an array, (col. 9, lines 21-30, fig. 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made, to provide the polishing pad of Muilenburg with abrasive units shaped into a triangular cone, hexagonal cone or circular cylinder set up as an array, as taught by Goetz, in order to enhance the pad's surface roughening abilities.

Art Unit: 3723

Claims 4-6, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Redeker et al. in view of Muilenburg as modified by Goetz.

Redeker et al. teaches a method of polishing a wafer comprising providing a first polishing pad, performing a first polishing operation on the first polishing pad to planarize the wafer, providing a second polishing pad, and performing a second polishing operation on the second polishing pad, (col. 12, lines 46-61) and the second polishing operation being conducted at a rate faster than that of the first polishing operation, (col. 11, lines 8-15). Redeker et al. teaches all the limitations of the claims except for the first and second polishing pads comprising a plurality of abrasive units each fabricated using an adhesive compound which comprises a resin, with evenly distributed cerium oxide abrasive particles therein, and the abrasive units shaped into a triangular cone, hexagonal cone or circular cylinder set up as an array. Muilenburg et al. as modified by Goetz teaches polishing pads, 200, comprising a plurality of abrasive units, 210, each fabricated using an adhesive compound which comprises a resin, (col. 10, lines 35-36), with evenly distributed cerium oxide abrasive particles, (col. 9, line 51), and the abrasive units shaped into a triangular cone, hexagonal cone or circular cylinder set up as an array, (Goetz col. 9, lines 21-30 and fig. 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the method of Redeker et al. with the polishing pads, as taught by Muilenburg et al. as modified by Goetz, in order to enhance the systems polishing capabilities.

***Response to Arguments***

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shantese L. McDonald whose telephone number is (703) 308-8722. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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S.L.M.  
December 2, 2004